

JUL 05 2007

Application No.: 09/824330

Case No.: 56081US002

**Amendments to the Claims:**

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

1. (Currently Amended) A continuous method of making a combinatorial library of materials comprising:

providing at least one plug flow reactor,

introducing one or more components into the at least one plug flow reactor, and

introducing or changing over time in at least one plug flow reactor to which the one or more components were added at least one variable affecting the one or more components to produce a combinatorial library of materials[.];

wherein the variable is selected from the group consisting of the type of component or starting material, the concentration of a component or starting material, the pressure in the reactor, the amount of actinic radiation supplied to a reaction zone, the type of energy supplied to a reaction zone, the type of component mixing, the degree of component mixture, the chemical reaction of components, the residence time, and/or where and/or when additional components are introduced into the plug flow reactor;

and wherein the combinatorial library of materials comprises at least one of the following: small-molecule materials, biological materials, biologically active materials, block copolymers, graft copolymers, tapered or gradient polymers, branched polymers, star polymers, comb polymers, network polymers, end-functional polymers, site specific functional polymers, and/or telechelic polymers.

2. (Original) The method of claim 1 further comprising evaluating the materials of the library.

3. (Canceled)

Application No.: 09/824330

Case No.: 56081US002

4. (Original) The method of claim 1 wherein the plug flow reactor comprises a stirred tube reactor.

5. (Original) The method of claim 1 wherein the plug flow reactor comprises an extruder.

6. (Original) The method of claim 1 wherein the plug flow reactor comprises a static mixer.

7. (Original) The method of claim 1 wherein the plug flow reactor comprises a stirred tube reactor in tandem with an extruder.

8. (Canceled)

9. (Original) The method of claim 1 wherein the changing of a variable is performed in a continuous manner.

10. (Original) The method of claim 1 wherein the changing of a variable is performed in a stepwise manner.

11. (Original) The method of claim 1 wherein the variable is physical mixing of components.

12. (Canceled)

13. (Original) The method of claim 12 wherein the chemical reaction is a polymerization method consisting of at least one of step-growth, chain-growth, and coordination.

14. (Original) The method of claim 13 wherein the coordination reaction uses a Ziegler Natta or metallocene catalyst.